

# Endmill with variable helix Ø10 Z4

A01-115

Endmills with variable helix along flutes provide more stable milling process. They run more silent and produce less vibrations on higher cutting feed rates than conventional endmills. The added corner radius is used to increase rigidity at the ends and smoother cutting action.

This tools are used in processing of stainless steel, cast iron and high temperature alloys.

The given example is a carbide endmill with Ø10mm, variable helix between 20 and 30° and 4 flutes.

Variable index can also be added if necessary.



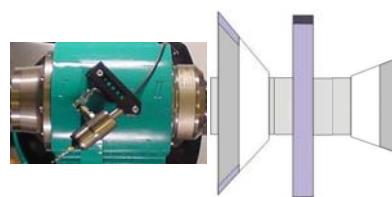
## 1. Cycletime for Production

Workpiece:	Diameter 10 mm, Z 4, Length of cutting edge 25 mm, Helix angle 20-30° Material CARBIDE							
Operations	Probe	Flute 1	Gashing	O.D.2	O.D.1	End 2	End 1	Radius
Feed [mm/Min]	2000	80	80	100	120	80	100	150
Power [kW]		3	2	1	2	1	1	1
Cutting feed [m/s]		26	25	22	22	22	22	24
Used wheels		1	2	3	3	3	3	3
Grinding time [s]	6	118	46	84	72	43	35	26
Total cycle time	7 Min 10 sec							

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

## 2. Used Grinding Wheels

1	1A1 Ø125 D91
2	12V9 Ø125 D126
3	11V9 Ø75 D106



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## 3. Machine and Software Requirements

Machines: 5 axes CNC grinders : Gemini DMR / Corvus GDS / Norma CFG / Aries 5

Control: Fanuc 31i Software: Quinto 5

Accessories:

Responsible engineer: SIW, 05.11.2010

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